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GEOGRAPHICAL PUBLICATIONS

(Reviews and Titles of Books, Papers, and Maps)

For key to classification see "Explanatory Note" in Vol. II, pp. 77-81

NORTH AMERICA

UNITED STATES

South Atlantic States

MATSON, G. C., AND SAMUEL SANFORD. **Geology and ground waters of Florida.** 445 pp.; maps, diagrs., ills., index. *U. S. Geol. Survey Water-Supply Paper 319.* Washington, D. C., 1914.

Nearly half of this volume is a sketch of the topography, hydrography, shore lines, and stratigraphy of Florida, being a revision of a similar work by Matson, Clapp, and Sanford published four years earlier in the Second Annual Report of the Florida Geological Survey. The remainder is devoted primarily to hydrology and includes notes on the topography, geology, and underground waters of the several counties, with about four pages on each one. Wherever the treatment of topography and geology differs from that in the Florida geological report it is usually as a result of additional field work by Mr. Matson in the winters of 1909-1911 and by Dr. T. W. Vaughan. Mr. Sanford's work was in the southern half of the peninsula and was all done prior to the earlier publication. The water resources of most of the counties had been described previously, with more topographic details, by Sellards and Gunter in the 3d, 4th and 5th annual reports of the Florida survey, but these reports seem to be ignored in the present publication. Of the 28 half-tone illustrations, nine seem to be from photographs previously used in the Florida second annual report, and two were published in 1912 in *Geological Survey of Georgia Bulletin 26* (reviewed in *Bull. Amer. Geogr. Soc.*, Vol. 46, 1914, pp. 920-923). The large geological map of the state is very similar to that used in the state report four years earlier, but the small colored map showing supposed Pleistocene terraces is entirely new.

Part 1, with 44 pages, entitled "geography," is mostly devoted to topography; and Matson describes northern and central Florida and Sanford southern Florida. Matson divides the state into only three topographic provinces: the upland or lake region, the lowlands, and the coast. The first has a maximum altitude of only about 300 feet, but is very diversified nevertheless; and the contour map of a small area selected to illustrate its topography does not belong to the true peninsular lake region (mapped by the reviewer in the 3d annual report of the state survey, January, 1911) at all, but represents a very typical portion of the lime-sink region. The lake region seems to taper northward into a long narrow ridge parallel to the Atlantic coast, known as Trail Ridge, which is mentioned a few times in this report, but without any attempt to explain it (see *Bull. Amer. Geogr. Soc.*, Vol. 46, 1914, p. 922). The effects of erosion are perceptible in the northern, and particularly the northwestern, part of the state, but not conspicuous in the peninsula, where streams are scarce and sluggish, and solution and wind work seem to have been more potent.

The lowland area corresponds approximately with that part below the 100-foot contour and is now regarded by Matson as being divisible into three Pleistocene terraces (which are shown on one of the folded maps). Such terraces were traced in the coastal plain of Maryland some years ago (see Maryland Geological Survey report on Pliocene and Pleistocene, by G. B. Shattuck and others, 1907), but the extension of the terrace hypothesis to Florida is something new. There is scarcely a hint of it in Matson's contribution to the Second Annual Report, published at the beginning of 1910, or in Vaughan's important "Contribution to the Geologic History of the Floridian Plateau," published nearly a year later (*Carnegie Inst. Publ. 133,* 1910, pp. 99-185; abstracted in *Science* for July 1, 1910). The evidence in favor of terraces is not given very fully in the report under consideration, but it is to be hoped that a more complete discussion will be supplied in the near future. Until then perhaps it will be best not to attempt to judge of its correctness; but it may be observed here that if the existence of such terraces, and their geographical significance, can be satisfactorily demonstrated, it will call for profound modifications in the system of geographical divisions of Florida outlined by the undersigned in the 3d and 6th annual reports.

About four pages in Matson's part of the report are devoted to the diverse features of the coast and the work of waves, tides, shore currents, and corals. A three-page section on soils has little connection with the rest of the work. The growth of pineapples on old dunes near Fort Pierce is cited as ''a striking example of the productivity of a sandy soil properly tilled''; but in that case the soil is nearly pure silica and serves merely to anchor the roots, and its apparent productivity is due to the use of commercial fertilizer at the rate of over $30 per acre per year! (For any other crop than pineapples probably much more fertilizer would be required.) The advantage of using lime on some Florida soils is briefly mentioned, but there is no intimation that the average Florida soil is more deficient in potassium than in any other essential element (and more so than that of any other state; presumably because the peninsula is remote from all igneous rocks and from streams traversing such rocks, and most of its strata are of organic sediments).

Sanford's contribution of 23 pages on southern Florida does not differ much from the corresponding part of the Second Annual Report. Although that part of the state is very low, it is considerably diversified, and among its features are described dunes, rolling sand plains, flat lands, rock ridges, the Everglades, cypress swamps, mangrove swamps, keys, and shore lines. The dunes are mostly on the east coast, and most of them are stationary and well covered with vegetation. One near Hobe Sound rises to 63 feet above sea-level. As a rule the old dunes of the east coast stand a little back from the coastal lagoons and a mile or two from the present ocean beach. Sanford regards them as having been formed when the land stood at least ten feet higher above the sea, and thus as indicating a subsidence of that amount since the Pleistocene. (He has recently reiterated that belief in *Science,* Vol. 43, 1916, March 10, pp. 348-349.) But to the reviewer the facts indicate nothing of the sort, and perhaps just the opposite. For active dunes in humid climates, in the eastern United States at least, seem to occur only within half a mile or so of wave-washed sandy beaches, of lakes or oceans; and the fact that the fixed dunes of Florida average a mile or two from the present coast seems to indicate a seaward movement of the shore line, by elevation or otherwise, since they were formed. (It is difficult to imagine how any sinking of the land could diminish the force of the wind on active dunes and allow them to become overgrown with forests.)

Sanford's description of the Everglades covers five pages, and when first published, early in 1910, it was probably the most complete and accurate there was. The tall mangrove forests of the Ten Thousand Islands, unlike the bushy mangrove swamps of the east coast, are probably known to but few botanists. The fact that the Keys form two groups (separated by Bahia Honda Channel), differing considerably in geology, topography, and vegetation, was probably almost unknown when Sanford first published his description (see *Bull. Amer. Geogr. Soc.,* Vol. 44, 1912, p. 521). Those of the upper or northeastern group are formed of recent coral rock, while the lower or western keys are of Pleistocene oölite, much like that on the mainland around Miami.

The geological details of the report need not be dwelt on here. Suffice it to say that the underlying strata described are mostly limestone, ranging in age from Upper Eocene or Lower Oligocene to Recent, and the surface is mostly covered with sand, which may be partly residual and partly a comparatively recent deposit. In the discussion of probable recent changes of sea-level along the coast there is no mention of Dr. D. W. Johnson's observations on the subject, some of which were published a year or two before. On page 102 there is a curious error, repeated from the Second Annual Report. It is there stated that W. C. Kerr and Elisha Mitchell visited Tampa in 1884. Dr. Mitchell died in 1857, and probably never knew Kerr or saw Florida!

There is much less correspondence between the geological divisions shown on the large map and easily recognized geographical divisions than one finds in the other southeastern states, but with the increase of knowledge the discrepancies will probably diminish. The mapping of the coastward portion of the Gulf hammock region, from Jefferson County to Hernando County, as Pleistocene and Recent seems ill-advised, for outcrops of Tertiary limestone just like those a little farther inland abound in the strip thus mapped and even on the bottom of the Gulf of Mexico near by, as was noted by Col. J. L. Williams in his ''Territory of Florida'' in 1837. The limestone even forms a few natural bridges in the southern part of Jefferson County.

Like its predecessor in the state geological report, the geological map shows topography by means of contours (with a 50-foot interval), and remarkably well considering the thinly settled condition of the state and the fact that not 10 per cent of it is yet covered by topographic surveys.

From the section devoted to underground water the reader can learn that Florida is noted for its large limestone springs (one of which is probably the largest spring in the world). Flowing artesian wells are fairly common in the eastern half of the peninsula and near the west coast, and some of those in Brevard County have a static head of about 50 feet. The water in some of the deep wells in Volusia, Brevard, and Osceola Counties and in all hitherto drilled at Key West is rather salty. In this part of the report there seems to be nothing about the temperature of the air or the predominance of summer rains in all parts of the state; matters which naturally have some bearing on the distribution and depth of ground water.

A few errors and omissions in the county descriptions may be noted here, with the pages on which they occur.

263. Alachua County is not in the lake region, except perhaps a narrow strip at its eastern edge.

269. The highest point mentioned on Trail Ridge is 210 feet. Elevations of about 238 feet a few miles farther south were reported in the *American Journal of Science* (Vol. 67, p. 408) in 1854, and in *U. S. Geological Survey Bulletin 516* (p. 17) in 1912 (see *6th Ann. Rept. Fla. Geol. Survey,* 1914, p. 329, footnote).

287. The water of Ichetucknee Spring is described as amber-colored. The reviewer pointed out in the 3d annual report of the Florida survey (p. 284) at the beginning of 1911 that that can hardly be its normal condition.

342, 343. ''Big'' Spring near Okahumpka should be Bugg Spring.

The names of Lake Okeechobee, Okefinokee Swamp, Ocklocknee River, Hillsborough Inlet, Hillsborough River, and St. John's County are spelled differently from local usage and therefore presumably wrong; but curiously enough, Hillsborough County and St. John's River are spelled correctly throughout (except for omitting the apostrophe from the latter, which is not a serious error).

Plate 3A is from a photograph taken by the reviewer on July 22, 1910, but there is no mention of that fact, or that the sink-hole there depicted was less than two days old at the time. Plate 4A is entitled ''Sink of Santa Fe River,'' but it is really the ''rise,'' where that river emerges from its subterranean course, and it is correctly labeled in the Second Annual Report. It is not quite so much out of plumb in the later publication, however. Plate 11B seems to be upside down. The ''sandstone of uncertain age'' in plate 12A seems to be identical with the Altamaha grit of Georgia, as was pointed out by the reviewer in 1911 (*Torreya,* Vol. 11, 1911, April, p. 95. See also *6th Ann. Rept. Fla. Geol. Survey,* 1914, p. 201).

There is no separate bibliography, but nearly one hundred earlier papers are referred to in footnotes or otherwise. Over one-third of these belong to the decade immediately preceding the publication of the authors' first report on Florida geology, four years earlier, but only five or six fall between the two reports. This last probably indicates that a considerable time elapsed between the writing and printing of the one under consideration. ROLAND M. HARPER.

ANDREWS, D. M. **De Soto's route from Confitachequi, in Georgia, to Cosa, in Alabama.** Maps, bibliogr. *American Anthropologist,* Vol. 19, 1917, No. 1, pp. 55-67.

BOUCHER, C. S. **The ante-bellum attitude of South Carolina towards manufacturing and agriculture.** *Washington University Studies,* Vol. 3, 1916, Part 2, No. 2, pp. 243-270.

DIXON, H. M., AND H. W. HAWTHORNE. **An economic study of farming in Sumter County, Georgia.** 64 pp.; diagrs. *U. S. Dept. of Agric. Bull. No. 492.* Washington, D. C., 1917. [This bulletin is a report on an exhaustive study of farming in a representative county in the cotton belt.]

GELDERT, L. N., edit. **Facts about Georgia: A state rich in resources and opulent in opportunities.** 277 pp.; maps, ills., index. Foote & Davies Co., Atlanta, 1916. $1.00. 10½ x 8. [A popular account of the State's resources written by various authorities and containing a large amount of information of geographical importance. The sections of chief interest are ''Forest Resources of Georgia,'' ''Mineral Resources,'' ''Altitudes, Population, and Farm Ownership,'' and ''Cotton.'']

LANGFITT, WM. C. **Progress of inland waterways in Savannah district.** *Rept. of Proc. of the Eighth Ann. Convention of the Atlantic Deeper Waterways Assoc.,* pp. 177-182. Philadelphia, 1915.

MARSHALL, R. B. **Spirit leveling in North Carolina, 1896 to 1914, inclusive.** 71 pp.; index. *U. S. Geol. Survey Bull. 646.* Washington, D. C., 1916.

SOUTH AMERICA

PARAGUAY, URUGUAY, ARGENTINA, CHILE

MARTINEZ, A. B., AND MAURICE LEWANDOWSKI. **Argentinien im zwangstigsten Jahrhundert.** Nach der vierten Auflage des französischen Originals übersetzt von Frank Kars. xlviii and 354 pp.; maps. F. A. Perthes, Gotha, 1912. Mk. 8. 9 x 6.

It appears that about 1910 England had 935 million dollars invested in the Argentine Republic, France 390, and Germany 200. On account of the close sympathy between the Republic and France, it was desired to attract larger French investments. The present book was written to present the attractiveness of the Argentine to Frenchmen with capital. It was originally written in French. The authors are an Argentine official and statesman and Dr. Maurice Lewandowski, who is stated to have been sent out to study the situation as the representative of the Comptoir National d'Escompte of Paris. They report huge and continuous increases of crops as well as areas put under crops, continued increase of animals of all sorts except sheep, which demand too much space and have therefore to yield to the demand for agricultural land, and continued increase of population and prosperity. Half of the Argentine territory, they say, can be made to serve for grazing or stock raising in about equal proportions, and the country can and certainly will greatly increase its population and its production of grains, alfalfa and live stock. But they also report that the immigrant does not remain in the country, as he should for its best interest; too often he returns to Europe after each harvest, because the land is not made easy enough of acquisition. Slow, vexatious, and difficult is the purchase of land by the poor man. This is a serious drawback to the expansion of Argentine agriculture. Education has a long road to go before it reaches a proper status, a status that will enable the Argentine citizen to look level-eyed at the citizen of the United States. The nation is too much a borrower, too little a saver. Surpluses are too often flung into further expansion instead of being devoted to consolidating what has been gained. National expenditures are altogether too large. Speculation, chiefly in land, reaches ever dizzier heights, yet it is founded on substantial values. Even the highest sales-figures quoted rarely reach forty or fifty dollars an acre. The reviewer recalls the old assessment of ''camp'' lands about Cordoba in 1884 at $400 the league of *nine square miles,* and how excessive seemed the increase to $12,000 the league when water became available for it in the Rio Primero works. Yet the new price is but two dollars an acre!

The investigations of these authors are doubtless sound economically and financially, but in no geographic sense scientific. The real basis for judging the availability of Argentine lands is the local rainfall, of which the book takes no account. A single page covers the whole account of rainfall: ''the rain has no constant character,'' p. 26. Doubtless because this important matter is ignored, the portion of the republic that may raise crops or stock is put too high. MARK JEFFERSON.

LEHMANN-NITSCHE, ROBERT. **El problema indígena: Necesidad de destinar territorios reservados á los indígenas de Patagonia, Tierra del Fuego y Chaco según el proceder de los Estados Unidos de Norte América.** *Anal. de la Soc. Científica Argentina,* Vol. 80, 1915, No. 5-7, pp. 385-389. [Paper read at the Pan-American Scientific Congress of Buenos Aires in 1910.]

MATTA, J. G. **Bosquejo del estado actual de la industria minera del cobre en el estranjero i en Chile.** 130 pp. Soc. Nacl. de Minería, Santiago de Chile, 1915.

MOLLO, ANTONIO. **L'Argentina nella crisi economica mondiale.** *Italica Gens,* Vol. 6, 1915, pp. 89-94. Torino.

ORMEZZANO, VINCENZO. **Antofagasta.** *La Geogr.,* Vol. 4, 1916, No. 4-7, pp. 164-186. Novara.

OSSA, I. D. **Depósito de molibdeno i tungsteno de Campanani, Arica.** *Bol. Soc. Nacl. de Minería,* No. 223, Vol. 28, 1916, Ser. 3a, pp. 202-213.

RASSMUSS, J. **Rasgos geológicos generales de las sierras pampeanas.** 18 pp. *Bol. Direcc. Gen. de Minas, Geol., e Hidrol.,* Minist. de Agric., No. 13, Ser. B (Geol.). Buenos Aires, 1916.

SCHULTZ, L. G. **Resultado de las observaciones del magnetismo terrestre.** 12 pp.; maps. *Bol. Oficina Meteorol. Argentina No. 5.* Buenos Aires, 1914.

SINGEWALD, J. T., JR., AND B. L. MILLER. **The genesis of the Chilean nitrate deposits.** Bibliogr. *Econ. Geology,* Vol. 11, 1916, No. 2, pp. 103-114. [Abstracted in the December, 1916, *Review,* Vol. 2, p. 465.]

STONE, J. P. **The Chilean nitrate industry.** Ills. *The South American.* Vol. 5, 1916, No. 1, pp. 12-13 and 19.

SWAN, A. D. **Some ports on the west coast of South America and their future development.** *Papers of the Amer. Assoc. of Port Authorities,* Vol. 5, 1916, Part 1, pp. 31-40. [The author has prepared plans for the development of the North Chilean ports of Antofagasta, Coloso, and Mejillones. On his approved plans Antofagasta will remain the principal shipping port despite the vastly superior natural harbor of Mejillones. Besides the consideration of the present status of Antofagasta ''it must be borne in mind that, in order to get to Mejillones from the interior by rail with a reasonable gradient, it [freight] would have to be taken past Antofagasta, a distance of 69 kilometers.'']

THIERRY, MAURICIO DE. **Ensayo de clasificacion de las aguas minerales de la República Argentina.** *Anal. del Minist. de Agric.,* Vol. 10, 1915, No. 3, pp. 1-150.

—— **Uruguay, The mineral resources of.** *South American Journ.,* Vol. 80, 1916, No. 19, p. 382; No. 22, p. 445.

VEGA GALLO, HERMÓJENES. **Reseña sobre los trabajos en el mineral de El Tofo.** *Bol. Soc. Nacl. de Minería No. 219,* Vol. 27, 1915, Ser. 3a, pp. 434-439. Santiago de Chile. [Mine near Coquimbo, Chile.]

WILLIS, BAILEY. **The awakening of Argentina and Chile.** Ills. *Natl. Geogr. Mag.,* Vol. 30, 1916, No. 2, pp. 121-142.

—— ***Beagle Channel: Cape San Pio to Gable Island.*** 1:75,000. *U. S. Hydrogr. Office Chart No. 2207.* Washington, D. C., July, 1916.

—— ***Beagle Channel: Gable Island to Lapataia Bay.*** 1:75,000. *U. S. Hydrogr. Office Chart No. 2208.* Washington, D. C., July, 1916.

—— ***Guaitecas Islands. From a Chilean survey in 1904.*** 1:100,000. *U. S. Hydrogr. Office Chart No. 2389.* Washington, D. C., July, 1916.

—— ***Guapiquilan Islands (off the south coast of Chiloé). From a Chilean survey in 1896.*** 1:41,000. *U. S. Hydrogr. Office Chart No. 1747.* Washington, D. C., July, 1916.

—— ***Papudo Bay. From a Chilean survey in 1901.*** 1:29,000. *U. S. Hydrogr. Office Chart No. 2227.* Washington, D. C., July, 1916.

—— ***Paraná and Uruguay Rivers, Entrance to the. From Argentine surveys between 1901 and 1910.*** 1:100,000. *U. S. Hydrogr. Office Chart No. 2704.* Washington, D. C., July, 1916.

—— ***Paraná River: Caalayti Sand to Corrientes. From a British survey in 1847.*** 1:85,000. *U. S. Hydrogr. Office Chart No. 2710.* Washington, D. C., July, 1916.

—— ***Paraná River: Paraná to Caalayti Sand. From a British survey in 1847.*** 1:84,000. *U. S. Hydrogr. Office Chart No. 2709.* Washington, D. C., July, 1916.

—— ***Paraná River: Paraná Guazu to Ceibal. From Argentine surveys between 1901 and 1910.*** 1:100,000. *U. S. Hydrogr. Office Charts No. 2707 and 2708.* Washington, D. C., July, 1916.

—— ***Punta Arenas Road. From a Chilean survey in 1897.*** 1:25,600. *U. S. Hydrogr. Office Chart No. 2081.* Washington, D. C., July, 1916.

—— ***Quilan Cove. From a Chilean survey in 1896.*** 1:10,000. *U. S. Hydrogr. Office Chart No. 1747.* Washington, D. C., July, 1916.

—— ***Taltal, Port. From a Chilean survey in 1903.*** 1:11,800. *U. S. Hydrogr. Office Chart No. 2334.* Washington, D. C., July 7, 1916.

—— ***Uruguay River: Concepcion del Uruguay to Concordia. From Argentine surveys between 1901 and 1910.*** 1:50,000. *U. S. Hydrogr. Office Chart No. 2706.* Washington, D. C., July, 1916.

—— ***Zapallar, Port. From a Chilean survey in 1901.*** 1:29,000. *U. S. Hydrogr. Office Chart No. 2227.* Washington, D. C., July, 1916.

EUROPE

British Isles

STEBBING, E. P. **British forestry: Its present position and outlook after the war.** xxv and 257 pp.; ills., index. John Murray, London, 1916. 6s. 8 x 5.

The problem of finding an adequate and marketable supply of timber for house-building on a vast scale after the war has engaged the attention of this well-known authority in forestry. A strong afforestation policy should be adopted. For immediate purposes Russian forests offer the strongest hope. From a geographer's viewpoint the most valuable chapters deal with the forests of Russia in Europe and the forests of Finland, Siberia, and Turkestan. These chapters contain sections on the topography, climate, forest resources, exports, and imports of each region with reliable statistics. A short chapter on the cedar trade of Asiatic Russia contains invaluable material on the gathering of the seed of the cembran pine, material which the geographer would find it exceedingly difficult to get elsewhere. Certainly nowhere else can be found so careful and comprehensive an exposition of the timber imports and exports of the British Isles in 1915. Professor Stebbing's book not only serves the immediate needs and emergencies of the time but also contributes to a broader knowledge of the principles and economics of forestry, the crop aspects of the world's timber supply, and the place of trees in the new commercial and social age to follow the present war.

Bonacina, L. C. W. **The great snowstorms of 1916.** *Symons's Meteorol. Mag.*, No. 603, Vol. 51, 1916, April, pp. 37-40.

—— **British Isles, The.** viii and 210 pp.; maps, diagrs., ills. (Cambridge Geographical Readers, III. Edit. by G. F. Bosworth.) University Press, Cambridge, 1915.

—— **British rainfall, 1915.** By Dr. H. R. Mill and Carle Salter. *Nature*, No. 2453, Vol. 98, 1916, Nov. 2, p. 168. [A review.]

Carmichael, Alexander. **Grazing and agrestic customs of the outer Hebrides.** *Celtic Rev.*, No. 37, Vol. 10, 1914, pp. 40-54; No. 38, 1915, pp. 144-148. [Description of archaic customs surviving amongst the crofters of the Outer Isles. Arable lands and peat mosses are re-distributed periodically according to lot. Each season the fishing grounds are apportioned in the same way. Certain obligations incurred by the crofters themselves, i. e. the wages of the constable elected, are paid in kind. Each community (townland) has its own shepherd and herdsman. Many of the ancient customs, however, are now disappearing.]

Chapman, E. H. **The relation between atmospheric pressure and rainfall at Kew and Valencia observatories.** Diagrs. *Quart. Journ. Roy. Meteorol. Soc.*, No. 180, Vol. 42, 1916, pp. 289-299. [The Valencia referred to here is in Ireland not Spain.]

Clark, Keith. **The spell of Scotland.** 345 pp.; map, ills., bibliogr., index. The Page Co., Boston, 1916. $2.50. 8 x 6.

Close, C. F. **Notes on the geodesy of the British Isles.** 33 pp., maps, index, bibliogr. *Ordnance Survey, Prof. Papers, New Series, No. 3.* London, 1914.

Deeley, R. M. **The fluvio-glacial gravels of the Thames Valley.** Map, diagr. *Geol. Magazine*, Sixth Decade, Vol. 3, 1916, No. 2, pp. 57-64; No. 3, pp. 111-117.

Shaw, Napier. **Hourly values from autographic records: Geophysical section, 1913. Comprising hourly readings of terrestrial magnetism at Eskdale Observatory and summaries of the results obtained in terrestrial magnetism, meteorology, and atmospheric electricity chiefly by means of self-recording instruments at the observatories of the meteorological office.** 97 pp.; diagrs. *British Meteorol. and Magnetic Year Book, 1913*, Part 4, Sect. 2. Edinburgh, 1915.

Ward, E. M. **The Cinque Ports and their coastline.** Maps, bibliogr. *Geogr. Teacher*, No. 45, Vol. 8, 1916, Part 5, pp. 306-311; No. 46, Part 6, pp. 360-374.

The Low Countries, Luxemburg

Löhnis, Th. P. **De Maatschappij voor Scheeps- en Werktuigbouw "Fijenoord" te Rotterdam, voorheen de Nederlandsche Stoomboot-Maatschappij.** Ills. *Tijdschr. voor Econ. Geogr.*, Vol. 7, 1916, No. 4, pp. 133-156.

Loon, H. W. van. **The rise of the Dutch kingdom, 1795-1813: A short account of the early development of the modern kingdom of the Netherlands.** xx and 279 pp.; ills. Doubleday, Page & Co., New York, 1915. $2.50. 9 x 6.

Pirenne, H. **De Belgische natie.** *Vragen van den Dag*, Vol. 31, 1916, No. 10, pp. 737-757.

Schrijnen, Jos. **Nederlandsche Volkskunde, Vol. 2.** iv and 361 pp.; map, ills., index. W. J. Thieme & Cie., Zutphen. Fls. 3.75. 10½ x 7.

Van Der Stok, J. P. **Bijdrage tot de kennis van het klimaat van Nederland.** Diagrs. *Tijdschr. Kon. Nederl. Aardrijk. Genoot.*, Vol. 33, 1916, No. 1, pp. 1-29; No. 2, pp. 163-190.

Wieder, F. C. **Mijn eerste onderzoek in Duitschland naar oud-Nederlandsche kaarten en een belangrijke vondst in Engeland.** *Tijdschr. Kon. Nederl. Aardrijk. Genoot.*, Vol. 33, 1916, No. 4, pp. 540-568.

SCANDINAVIA, INCLUDING FINLAND

MADSEN, V. H. O. **Le Service Géodésique du Danemark, 1816-1916.** 46 pp.; maps, ills. *Den danske Gradmaaling No. 16.* Copenhagen, 1916.

General Madsen, Director of the Geodetic Survey of Denmark, has celebrated the centenary of that organization by publishing a brief résumé of geodetic accomplishments in Denmark, together with portraits and succinct biographies of his three eminent predecessors and five maps illustrating the work accomplished.

Except for the first director and a few of the collaborators, all the directors, observers, and calculators have been officers of the army or navy. Denmark joined the International Geodetic Union in 1862 and has made an appreciable contribution to the solution of problems of international interest.

Triangulation had begun in 1765, but systematic work dates from the founding of the Danish Geodetic Service in 1816 under Professor Schumacher, who established the observatory of Altona. Director Schumacher's equipment and work attracted worldwide notice, many celebrated astronomers coming to Holstein to visit him. He inaugurated a grand program of triangulation to cover Denmark and join with Prussia, but his labors were interrupted in 1848 before his program was completed. He originated the *Astronomische Nachrichten* in 1823.

Colonel Andrae resumed operations in 1853 and completed the program in 1884, publishing his results in Volumes 1-4 of *Den danske Gradmaaling.* This completed Denmark's contribution to the determination of the terrestrial spheroid. Andrae's elaboration of his predecessor's observations and his originality in developing geodetic theories along practical lines won him international renown.

Under General Zachariae, 1884-1907, a new program of work began, including precise leveling, latitude and gravity determinations, and an extension of the triangulation net to join with Sweden. He practically finished his program and published his results in Volumes 5-9, but military service prevented him from completing his calculations.

General Madsen was appointed in 1907. He continued practical work, introducing many modern improvements in methods, and in 1912 published as Volume 10 a résumé in French of the first nine volumes. A review of Volume 10 has already appeared (*Bull. Amer. Geogr. Soc.*, Vol. 47, 1915, pp. 713-714). JAMES GORDON STEESE.

SANDSTRÖM, J. W. **Meteorologische Studien im schwedischen Hochgebirge.** 48 pp.; maps, diagrs. Wettergren & Kerber, Göteborg, 1916. 9½ x 7.

J. W. Sandström has been making personal studies of meteorological phenomena in the mountains of Sweden. This "field work," as is always the case when it is undertaken by a competent observer, has yielded many interesting facts.

The trip, the results of which are now published, was a short one (December 3, 1913–January 20, 1914). The succession of weather changes met with during the author's tramp through his native mountains is graphically described. The most noteworthy phenomena are analyzed and explained. Local winds, snow squalls, temperature changes, ice conditions, cloud formation, fog—these and many other meteorological conditions are referred to. The author says that there must be few districts in the world better suited for direct observation of dynamic meteorological phenomena than the west side of the northern Scandinavian highland in winter. The most important aids in his work were his "own eyes and feet." Special attention is given to the air movements in the mountains, and several diagrams illustrate the conditions. A few closing paragraphs deal with geological climates. The essential importance of wind in controlling cloudiness and precipitation and in determining life conditions is strongly emphasized, and the controls exercised by topography over air movement and temperature are considered. Geological climates are believed to have been directly controlled by the relief of the earth's surface. When the mountains were highest, glacial climates prevailed. When the mountains were lowered by erosion, warm desert climates prevailed. Variations in the CO_2 content of the atmosphere, depending upon the temperature of the ocean waters, were contributing causes of climatic change. Storms, also, being more violent when the mountains were highest, brought more precipitation at times of most marked relief.

Dr. Sandström's discussion of geological climates is unfortunately very brief. His views upon this subject are clearly affected by what he has himself seen of present conditions of air movement in its relation to topography in Sweden. It would be well if more writers were to start with *present* conditions in their endeavor to explain past climates. R. DEC. WARD.

—— **Allmänna Väg- och Vattenbyggnader, av Kungl. Väg- och Vattenbyggnadsstyrelsen, År 1915.** viii and 153 pp. Sveriges Officiella Statistik, Stockholm, 1916.

BIRRELL, J. H. **Notes on Sweden, with special reference to the forests in relation to industry and commerce.** Map. *Scottish Geogr. Mag.*, Vol. 32, 1916, No. 5, pp. 227-241.

—— **Electric energy, the transmission of, from Sweden to Denmark.** Maps, *Scientific American Suppl.*, No. 2110, Vol. 81, 1916, June 10, p. 377. [An abstract from *Engineering*, giving various technical details of "the first instance of the transmission of electric power from one country to another by submarine cables." The current is transmitted from Helsingborg to Elsinore.]

—— **Finland, Statistisk Årsbok för.** 669 pp.; map. *Utgifven of Statistiska Centralbyrån*, New Ser., Vol. 13, 1915. Helsingfors, 1916. [Also written in French.]

—— **Järnvägar, Statens, av Kungl. Järnvägsstyrelsen, År 1915.** 246 pp.; maps, diagrs. Sveriges Officiella Statistik, Stockholm, 1916.

LINDROTH, HJALMAR. **Estnisk bosättning i Sverige under äldre tider.** Map. *Ymer*, Vol. 36, 1916, No. 3, pp. 194-214. [Esthonians in Sweden in ancient times.]

—— **Nedbøriagttagelser i Norge.** Vol. 21, 1915. xi and 83 and 66 pp.; maps, diagrs., ills. Norske Meteorol. Inst., Christiania, 1916. [Rainfall observations in Norway.]

RABOT, CHARLES. **Le grand lac Vener accessible à la navigation maritime.** Map, diagr. *La Nature*, No. 2271, 1917, April 7, pp. 220-222. [Illustrated with a map and profile of the canal. Compare the record item entitled "Extension of the Swedish Waterway System" in the March number of the *Review*, p. 243.]

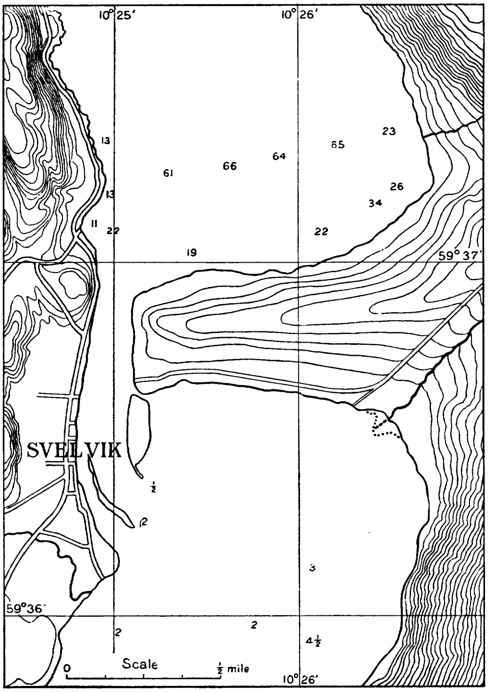
ROSEN, ERIC VON. **Hafva offerplatserna vid Gråträsk, Rautasjaure, och Unna Saivva uteslutande användts af lappar?** *Ymer*, Vol. 36, 1916, No. 1, pp. 32-38. [As to whether certain sacrificial places were used exclusively by Laplanders.]

RYDER, C. **Meteorologisk Aarbog, 1914. Part II: Faerøerne, Island, Grønland og Vestindien.** 85 pp. **1915, Part I: Kongeriget Danmark.** 75 pp. Danske Meteorol. Inst., Coppenhagen, 1916.

SANDER, G. D. **Zeemansgidsen voor de Kleine Vaart. Part 4: De Bothnische Golf.** 160 pp.; diagrs., ills., index. Dept. of Agric., 's-Gravenhage, 1914.

—— **Swedish lake, Ship canal from, to ocean.** Ills. *Engineering News*, Vol. 77, 1917, Feb. 22, pp. 297-298. [Abstracted in the March *Review*, p. 243.]

—— ***Topografisk kart over kongeriket Norge.*** Sheet: ***Moss.*** 1:100 000. Surveyed in 1891-1908, revised in 1912. Norges Geografiske Opmaaling 1915, Christiania, 1915. [A portion of the Christiania fiord district showing excellent examples of partially submerged glacial troughs and small hanging valleys, and especially noteworthy for the prominent terminal moraine near Svelvik which separates Dram Fiord into two parts. For a good description of the moraine, illustrated by photographs and diagrams, see W. C. Brøgger: "Om de senglaciale og postglaciale nivåforandringeri Kristianiafeltet," *Norges Geologiske Undersøgelse, No. 31*, 1901, pp. 131-141. Compare this map with the Narvik sheet, which shows troughs and hanging valleys in more striking manner, and a less prominent terminal moraine dividing the two parts of Rombak Fiord. Some of the best photographs yet published of the fiorded coast of Norway may be found in a new quarto series entitled Grand Géographie Bong Illustrée, Paris, 1913. In Vol. 3, opposite p. 20, there is a striking photograph of Stavanger Fiord with its dark, lofty, stream-scored walls surmounted by the rolling upland that forms a large part of the surface of Norway. The colored views opposite p. 8, showing coastal scenery, are incomparable. See also the maps in this volume, pp. 6 and 7.—D. W. J.]



ASIA

Turkey in Asia, Arabia, Caucasia, Iran

Schwöbel, Valentin. **Die Landesnatur Palästinas.** (Series: Das Land der Bibel: Gemeinverständliche Hefte zur Palästinakunde im Auftrage des Deutschen Vereins zur Erforschung Palästinas herausgegeben von Professor Lic. Dr. G. Hölscher, Vol. 1, Nos. 1 and 3.) Part I: 56 pp.; Part II: 52 pp. J. C. Hinrichs'sche Buchhandlung, Leipzig, 1914. 9 x 6.

In about one hundred pages Dr. Schwöbel gives an admirable discussion of the physiographic features of Palestine. His work cannot be said to be original, but he has carefully studied the best authorities. He follows the usual method of discussing first the boundaries and general characteristics; then geological structure, climate, hydrography, surface forms, and altitude relations. For the most part he avoids theory and sticks to facts. In regard to the most warmly debated problem in the geography of Palestine, namely, changes of climate, he concludes that the hydrographic conditions have unquestionably changed during historic times, the supply of water being less now than 2,000 years ago. In explanation of this he offers the old hypothesis that subterranean sources of water supply have gradually become exhausted. People who have actually lived from season to season in dry countries are not likely to accept this idea. The volume of the springs changes so rapidly in response to seasons of drought or unusual rain that one can scarcely believe that huge reservoirs of water can have been gradually declining for hundreds of years. Ellsworth Huntington.

Williams, W. L. **Armenia, past and present: A study and a forecast.** With an introduction by T. P. O'Connor. xi and 211 pp.; maps, index. P. S. King & Son, Ltd., London, 1916. 3s. 6d. 7½ x 5.

To western peoples but vaguely acquainted with the past of the Near East, this glimpse of Armenia's tragic history will serve as an introduction. A preliminary sketch of the country, written concisely and not overburdened by technicality, leads the reader to graphic passages in the early period. Here as in the later and wider stream of national history, the author provides a mere historical outline; but he succeeds in giving a thoroughly intelligent first lesson. The relation of Armenia to the western world and the role of the inhabitants as early guardians of the more advanced ideals of the West are exhibited.

Concerning modern problems the author has culled from opinions freely aired in the press during the past thirty years, and makes no personal contribution. A partisan of Armenian autonomy, he realizes at the same time that the shifting of Near Eastern problems a few points to the east after the war may convert Asia Minor into a storm-center of the Balkan type. With a past and future clouded alike, the history of Armenia shows what a misfortune it was for its people to inhabit a highway of nations instead of a wayside path.

Blyth, Estelle. **The future of Palestine.** *The Near East,* No. 293, Vol. 12, 1916, Dec. 15, pp. 157-158; No. 294, Dec. 22, pp. 181-182.

Calverley, E. E. **The pearl fishing in the Persian Gulf, where the finest gems in the world are found.** Ills. *Scientific American Suppl.,* No. 2146, Vol. 83, 1917, Feb. 17, pp. 100-101.

Corsi, Mario. **Il califfato turco in Asia e la rivolta delo sceriffo della Mecca.** *Riv. Coloniale,* Vol. 11, 1916, No. 7, pp. 341-349.

Falev, P. A. **Compte-rendu d'une mission en Transcaucasie et en Azerbeĭdžan pendant l'été 1916.** *Bull. de l'Acad. Imp. des Sci.* [*de Pétrograd*], Ser. 6, 1917, No. 3, pp. 171-176. [In Russian.]

Ghibellino, D. O. **La Francia e l'Italia in Oriente e in Affrica: La questione dello Jemen.** *Riv. Coloniale,* Vol. 11, 1916, No. 10, pp. 580-587.

Hill, Richard. **In the cosmopolitan Caucasus.** Ills. *Travel,* Vol. 28, 1916, No. 2, pp. 26-30 and 46. ["A region that has harbored many nationalities since pre-Roman times—the valley of the seven nations and how the people live."]

Jastrow, Morris, Jr. **The world's highway.** *The Nation,* No. 2670, Vol. 103, 1916, Aug. 31, pp. 197-200. [The historical struggle for the highway of Asia Minor and Mesopotamia.]

Kharajian, H. A. **Regional geology and mining of Armenia.** 72 pp.; maps, diagrs., bibliogr. The Nerso Press, New York, 1915. 9 x 6.

Pace, Biagio. **Le due prime campagne della Missione archeologia italiana in**

Asia Minore. Maps, ills. *Boll. della Reale Soc. Geogr. Italiana,* Vol. 5, 1916, No. 11, pp. 885-907.

Rogers, R. W. **A history of Babylonia and Assyria.** Vol. I: xx and 542 pp.; map, diagr., ills. Vol. II: xix and 609 pp.; ills., bibliogr., indexes. The Abingdon Press, New York, Cincinnati, 1915. 2 vols. $10.00. [A praiseworthy book of which the first volume deals with the history of archeological exploration, the geography of the Tigris-Euphrates region, and the modern development of knowledge of its ruins, mounds, and cuneiform records. The geographical sections are by way of explanation, but they are unusually clear and helpful. The constant contrast between the ancient and the modern geography of the Euphrates valley is scholarly in treatment and contributes much high-grade material to a regional study of the valley.

The second volume treats principally of dynasties, but is full of interesting matter concerning ancient colonists, nomads, plundering and military expeditions, and all the laborious but romantic wars between rival kingdoms through which was spread a knowledge of the arts and sciences of Assyria and Babylon.]

Southard, A. E. **Aden's trade in gums, spices, oils, and seeds.** *Commerce Repts.,* 1917, No. 24, pp. 376-379. Bur. of Foreign and Domestic Commerce, Dept. of Commerce, Washington, D. C.

Thimm, C. A. **Turkish self-taught, with English phonetic pronunciation.** (Marlborough's Self-Taught Series.) Revised by G. Hagopian. 138 pp.; ill. E. Marlborough & Co., London, 1910. 60 cents. 7½ x 5.

INDIA

Jack, J. C. **The economic life of a Bengal district: A study.** 158 pp.; diagrs. Clarendon Press, Oxford, 1916. 7s. 6d. 9 x 6.

This remarkable little book was written by a member of the Indian Civil Service who went home to take part in the war. While in India he had supervised one of the most careful economic studies ever made. With a corps of high-grade native assistants he made a detailed study of the income and expenditures of some 350,000 families in the Bengal district of Faridpur, in the delta of the Brahmaputra and Ganges. A million pages of data had been boiled down to a few tables, but the results had never been published. Fearing that his results might be lost to the world Mr. Jack took advantage of a furlough and in five days wrote this book. In it he not only gives a vivid description of a well-defined geographical province, but sheds a most illuminating light on Great Britain's wise colonial administration. Apparently his work had no immediate connection with the recent projects for increased customs duties on cotton in India, or for India's expenditure of half a million dollars for the world war; nevertheless it has a significant bearing on these questions.

Four-fifths of the two million people of Faridpur depend directly upon agriculture. Although the flat delta is inundated for months each year, population averages 900 per square mile. The southwestern part forms a shallow lake for eight months. Yet even there 800 people per square mile live on little islands which they themselves have heaped up. The period of steady farm work lasts only three months. The rest of the time, having harvested their rice and jute, the people have little to do except to fish. Sometimes the farmers of fairly prosperous districts hire those from less prosperous places to cut their rice crops for one-*sixth* of the product, while they themselves go to more favored places and work for one-*fifth* of the crop. The people are mild and quiet, as befits the climate, and Mr. Jack comments on the lack of laughter and of rough games among the boys. Litigation, however, is distressingly common, and lawyers profit outrageously.

For his economic discussion Mr. Jack divides the population into four classes whose numbers and weekly income per family are as follows:

(1)	Persons	living	in comfort (49%)	9s. 4d.	per	week
(2)	"	"	below comfort (28%)	6s.	"	"
(3)	"	"	above indigence (18½%)	4s. 3d.	"	"
(4)	"	"	in indigence (4⅓%)	3s.	"	"

Among the indigent there are practically none who suffer from hunger. Everyone can fish and the Bengalis are always ready to give food to the poor.

The most significant part of Mr. Jack's book is his discussion of indebtedness and especially taxation. Nearly half of the people are in debt, although most of the debts are small. The great difficulty is the enormous rate of interest, 30 or 40 per cent compounded semi-annually. Before the war in the more advanced countries of Europe the average revenue of the government from all sources ranged from $32 or $33 per head in England and France to about $18 in Italy, while in Japan it amounted to $8. In Faridpur it was only 90 cents per person. Nevertheless wages in every occupation in the country districts of Japan appear to be at a lower level than in Bengal. In southern Italy in the purely agricultural districts the income of the average peasant may be larger than that of the people of Faridpur, but it is nothing like twenty times as great, as it would have to be in proportion to the taxes. This leads to Mr. Jack's main conclusion. "Civilized government is not a cheap thing, and the recognized law is that the poorer the country the greater the cost of its government. India is an amazing exception. . . . . . . Bengal . . . . . is incontestably the most lightly taxed of civilized countries . . . . It is probable that there is no other in which the burden of taxation is not twice or three times as great as it is in Bengal." In return for this light taxation the Indian bureaucracy has supplied India with cheaper railway communication than any possessed by European countries, has provided for her the greatest irrigation works in the world, and has created a judicial system whose fairness and expedition are unsurpassed. It has maintained order and security of life and property in the most unlikely conditions, and has grappled successfully with widespread failure of crops, the most difficult problem which any government has ever been called upon to face. Of late years it has also attempted the stupendous labor of providing an ignorant and densely populated country with a modern system of education and sanitation. The only place where the Bengali gets little return for his taxes is in local affairs which he himself manages. Not only is education almost totally neglected, but health, water supply, roads, lighting, and the like are all very poorly managed, and a large part of the taxes is lost in the form of graft.

Mr. Jack's book is more forcible because he does not attempt to eulogize the British policy in India. He simply shows what it has done. Because he deals solely with facts his statements are convincing. If the people of India worked with a tithe of the energy and efficiency of their British rulers that country might be the richest in the world.

ELLSWORTH HUNTINGTON.

HOLDICH, T. H. **The survey link connecting the triangulations of India and Russia.** Ills. *Nature,* No. 2449, Vol. 98, 1916, Oct. 5, pp. 92-94.

—— **India, plague investigations in, Eighth report on.** Diagrs., ills. *Journ. of Hygiene: Plague Suppl. 3,* Vol. 13, 1914, pp. 403-681. Advisory Committee appointed by the Secretary of State for India, the Royal Society, and the Lister Inst., London.

—— **India and Russia, Completion of the link connecting the triangulations of, 1913.** vii and 121 pp.; maps, diagrs., ills., bibliogr., index. *Records of Survey of India,* Vol. 6. Dehra Dun, 1914.

KELWAY-BAMBER, H. **Thirty-five years' advance in Indian railway development.** Diagrs., ills. *Asiatic Rev.,* No. 26, Vol. 9, 1916, pp. 182-220.

KERSHAW, L. J. **Quinquennial review of forest administration in British India for the period 1909-10 to 1913-14 to which is appended the annual return of forest statistics for the year 1913-14.** 31 pp.; maps, diagrs. Dept. of Revenue and Agric., Simla, 1915.

—— **Meteorological observations taken in the laboratory of the Indian Association for the Cultivation of Science, 1914.** Diagrs. *Rept. of the Indian Assoc. for the Cultivation of Science for the Year 1914,* pp. 93-107. Calcutta, 1916.

RYDER, C. H. D. **Turco-Persian Frontier Commission.** Map, ills. *Records of Survey of India,* Vol. 9, pp. 164-173. Calcutta, 1916.

S——, ——. **India and German trade.** *Asiatic Rev.,* No. 28, Vol. 10, 1916, pp. 414-419; No. 29, Vol. 11, 1917, pp. 100-104.

TODD, J. A. **The world's cotton supply and India's share in it.** *Journ. Roy. Soc. of Arts,* No. 3345, Vol. 65, 1916, pp. 110-131 (discussion, pp. 126-131).

FARTHER INDIA, INCLUDING BURMA

CADET, G. LE. **Bulletin pluviometrique (1) 1914 and (2) 1915.** Maps. Observatoire Central de l'Indochine, Service Météorologique, Phu-Lien, 1915, 1916.

A prime source of meteorological material for the Indo-China region of southeastern Asia. Each volume has a few pages of well-conceived explanatory text, followed by tables and summaries, and a map showing the average yearly rainfall. Except for a belt of heavy rainfall on the eastern coast of the Gulf of Siam the regions of heavy precipitation conform to a notable degree with the topography. The most marked topographic elevation on the peninsula is a range of mountains that runs parallel to and very near the eastern coast. This, combined with a southeastern monsoon, results in a heavy rainfall all along the eastern coast except for a break that corresponds with the plains at Hanoi (lat. 20° N.).

BRENIER, HENRI. **Nos grandes colonies et la guerre: Indochine.** *Revue des Sci. Polit.*, Vol. 35, 1916, Apr. 15, pp. 145-171.

BRIGGS, L. P. **French Indo-China.** Ills. *Far Eastern Rev.*, Vol. 13, 1916, No. 1, pp. 32-34. Shanghai.

BRIGGS, L. P. **The production of palm sugar in Cambodia.** *Commerce Repts.*, 1916, No. 109, pp. 516-517. Bur. of Foreign and Domestic Commerce, Dept. of Commerce, Washington, D. C.

DURANDIN, PAUL. **Le pétrole dans l'Indochine française: Indices de l'existence de gisements d'hydrocarbures.** *Bull. du Comité des Trav. Hist. et Sci.: Sect. de Géogr.*, Vol. 29, 1914, pp. 40-79. Minist. de l'Instr. Publ. et des Beaux-Arts, Paris.

—— **French Indo-China, Mining in.** Ills. *Far Eastern Rev.*, Vol. 13, 1916, No. 2, pp. 68-69.

LEMOINE, PAUL. **Les travaux du Service Géologique de l'Indochine.** *La Géogr.*, Vol. 30, 1914-15, No. 4, pp. 288-290. Paris.

MAYBON, C. B. **Au sujet de la "Rivière du Tonkin."** Map. *Rev. de l'Hist. des Colonies Françaises*, Vol. 4, 1916, Part 3, pp. 257-266. Paris. [Discussion of the fluvial routes to Tonkin in the seventeenth century.]

REGELSPERGER, GUSTAVE. **L'Indochine actuelle, d'après l'"Atlas statistique" de M. Henri Brenier.** *Rev. Générale des Sciences*, Vol. 27, 1916, No. 6, pp. 178-189.

—— **Siam, Royal state railways of.** Map, ills. *Far Eastern Rev.*, Vol. 12, 1916, No. 9, pp. 365-368. [Director General Weiler's report for the year 2457, A. D. 1914-15.]

—— ***Anam: Fanrang Bay to Tonkin Gulf.*** 1:800,000. With inset: Entrance to Hue River. 1 in. to 1 mi. (1:70,000). *U. S. Hydrogr. Office Chart 3152.* Washington, D. C., 1916.

—— ***Indo-Chine, Carte de l'.*** 1:100,000. Six sheets: No. 177, ***Kompong-Thom***; No. 178, ***Porong***; No. 188, ***Kompong-Chlmang***; No. 198, ***Oudong***; No. 208, ***Pnom-Penh***; No. 234, ***Can-Tho*** (provisional edit., 1915). Service Géogr. de l'Indo-Chine, Hanoi, 1913.

—— ***Malacca, Strait of: Dinding Islands, The, and channels.*** 1:24,300. *U. S. Hydrogr. Office Chart No. 3738.* Washington, D. C., 1916.

—— ***Malakka Strait: Klang Strait and approaches.*** 1:50,000. *U. S. Hydrogr. Office Chart No. 3742.* Washington, D. C., 1916.

—— ***Siam, Gulf of: Fukwok Island and channels leading to the anchorages off Kampot.*** 1:150,000. *U. S. Hydrogr. Office Chart No. 3146.* Washington, D. C., 1916.

—— ***Siam, Gulf of: Kut Island to Riem Bay.*** 1:275,000. *U. S. Hydrogr. Office Chart No. 3138.* Washington, D. C., 1916.

—— ***Singapore to Kapas Island, Malay Peninsula—East Coast.*** 1:500,000. *U. S. Hydrogr. Office Chart No. 3131.* Washington, D. C., July, 1916.

OCEANS

—— **Atlantic and Indian Oceans, Monthly meteorological data for ten-degree squares in the, (1) January-June, 1914; (2) July-December, 1914; (3) January-June, 1915; (4) July-December, 1915.** 2 pp. each. *Kon. Nederl. Meteorol. Inst.* [*Publ.*] *No. 107*, Utrecht, 1915; 1916.

AULT, J. P. **Magnetic declinations and chart corrections observed on the Carnegie from Lyttelton, New Zealand, to South Georgia, and thence to Lyttelton and Pago Pago, December 1915-June 1916.** Map. *Terrestr. Magnet. and Atmosph. Electr.*, Vol. 21, 1916, No. 3, pp. 109-116.

AULT, J. P. **Magnetic declinations and chart corrections obtained by the Carnegie from Dutch Harbor, Alaska, to Lyttelton, New Zealand, August-November, 1915.** *Terrestr. Magnet. and Atmosph. Electr.*, Vol. 21, 1916, No. 1, pp. 15-18.

BABER, ZONIA. **The oceans, our future pastures.** *Scientific Monthly*, Vol. 3, 1916, No. 3, pp. 258-262. [Discusses the depletion of large sea animals and the desirability of international coöperation in enforcing remedial measures.]

BRUCE, W. S., ANDREW KING, AND D. W. WILTON. **The temperatures, specific gravities, and salinities of the Weddell Sea and of the North and South Atlantic Ocean.** *Trans. Roy. Soc. of Edinburgh*, Vol. 51, 1915, Part 1, No. 4, pp. 71-109.

Buen, Odón de. **Première campagne de l'Institut Espagnol d'Océanographie dans la Méditerranée.** 23 pp.; map. *Bull. l'Institut Océanographique No. 318.* Monaco, 1916.

Buen, Odón de. **Segunda campaña oceanográfica del "Vasco Núñez de Balboa."** *Bol. Real Soc. Geogr.,* Vol. 57, 1915, No. 4, pp. 515-526. Madrid.

Clark, A. H. **On the temperature of the water below the 1000-fathom line between California and the Hawaiian Islands.** Diagr. *Journ. Washington Acad. of Sci.,* Vol. 6, 1916, No. 7, pp. 175-177.

Gallé, P. H. **On the relation between departures from the normal in the strength of the trade-winds of the Atlantic Ocean and those in the water-level and temperature in the northern European seas.** Diagrs. *Proc. Section of Sciences, Kon. Akad. van Wetenschappen te Amsterdam,* Vol. 17, Part 2, pp. 1147-1158. June, 1915.

Jordan, W. L. **The "Challenger" records again, 1875-1915.** 8 pp. Simpkin, Marshall, Hamilton, Kent & Co., Ltd., London [1915]. 1s. 8½ x 5½.

Michael, E. L. **Continuation of hydrographic, plankton, and dredging records of the Scripps Institution for Biological Research of the University of California (1913-1915).** Compiled and arranged under the supervision of W. E. Ritter. Diagrs., bibliogr. *Univ. of California Publs. in Zoology,* Vol. 15, 1916, No. 2, pp. 207-254.

HUMAN GEOGRAPHY

Anthropogeography

Fairgrieve, James. **Geography and world power: A text-book of matriculation standard illustrating the geographic control of history.** x and 356 pp.; maps, index. Hodder & Stoughton, London, 1915. 3s.

The title might lead to the inference that the book was a product of the world war. As a matter of fact the manuscript was finished early in July, 1914, and was thereafter subject to a few verbal changes only. Nevertheless the interest of such a treatment is heightened in a time of almost universal struggle for mastery. The foreword is written by Professor Lyde, who says, "I cannot imagine anyone reading as far as Chapter II and not finishing the book."

The author's thesis, as developed in his introduction, is that human history is mainly a record of the use of energy, an energy which comes from the sun and is developed in forms of heat, winds, and rainfall, all having geographic distribution. The rest of the volume is made up of a series of fruitful and valuable regional chapters. Perhaps the chapter on Rome is as rich in suggestion as any. Italy is more a unit than Greece, but more diversified than Denmark or the Iberian Peninsula. Men from the mainland going south would cross the Etruscan Apennines in the vicinity of Bologna and Florence, and somewhere about Rome would meet foreign peoples that had come from lands beyond the Mediterranean. Among other things we have a statement of plausible geographic reasons why Rome rather than Egypt, Assyria, Phoenicia, or Greece first built great land roads.

The principle of economy in the use of power sometimes seems used in a rather artificial manner, tempting us to the old query as to our present competence for a fully systematic handling of this theme; but the volume is full of good inquiry and suggestions, and is a real contribution to a theme which is elusive and difficult, and must be so, because it involves scarcely less than a philosophy of history.

Albert Perry Brigham.

Geddes, Patrick. **Cities in evolution: An introduction to the town planning movement and to the study of civics.** xv and 409 pp.; maps, diagrs., ills., bibliogr., index. Williams & Norgate, London, 1915. 9 x 6.

A good book though somewhat difficult to review owing to the lack of close organization. Geddes has discovered some of the relations of cities to the density of population and develops the idea at length. He perceives the certainty of a Scandinavian renaissance when the "white coal" of its waterfalls drives the wheels of industry and the black coal of the present-day seats of industry is burning out.

A fine contribution is the contrast of *paleotechnic* and *neotechnic* industry, the one bent on making more money, the other bent on making better lives. He sets forth unsparingly the wretchedness pertaining to paleotechnic prosperity—"a vision for the most part of growing infinitudes of mean streets, mean houses, mean back-yards, relieved more or less by bigger ones, too often even duller still." Drunkenness is merely the shortest way out of the paleotechnic town! The neotechnic planner puts well-being above wealth. There is much about housing and city planning in the book. Much credit is given the Germans for their notable contributions to the city plan, with the reservation that the masses are expected, in Germany, to keep on crowding into tenements.

Professor Geddes' work has consisted largely in advertising the need of town planning, and much space is given here to all methods of bringing it to the notice of the public. A good item is the succinct account of the Edinburgh "Outlook Tower," so long associated with the author's name. Typically cryptic is the note from the preface that "The City and Town Planning Exhibition [has met] total destruction by the vigilant and enterprising *Emden!*" Readers may do their own imagining.

MARK JEFFERSON.

CRILE, G. W. **Man—an adaptive mechanism.** xvi and 387 pp.; diagrs., ills., index. The Macmillan Co., New York, 1916. $2.50. 8½ x 6. [Chiefly physiological, but containing an introductory chapter of geographic interest entitled "Adaptation to Environment." Man is still "a changing, modifiable organism" and with changes in his environment have come changes in conditions governing the contest. "The enemy without the clan has been succeeded by the enemy *within* the clan . . . ."]

MOORE, G. H. **Population studies by Moore expectancy curve.** Diagr. *Engineering News,* Vol. 76, 1916, Nov. 2, No. 18, p. 844.

SPARROW, H. G. **Territorial waters.** *U. S. Naval Inst. Proc.,* No. 162, Vol. 42, 1916, pp. 447-460. [On the political status of territorial waters.]

WISSLER, CLARK. **"Men of the Old Stone Age"—A review.** Map, diagrs., ills. *Amer. Museum Journ.,* Vol. 16, 1916, No. 1, pp. 13-21. [Book by Henry Fairfield Osborn, reviewed in the August, 1916, *Review,* Vol. 2, p. 167.]

ECONOMIC GEOGRAPHY

Distribution

DAVIS, J. W., AND T. H. HUGHES. **Geography. Grade 8B. Commercial and political.** ix and 274 pp.; maps, ills. Hinds, Noble & Eldredge, New York, 1915. 8 x 6.

This text is one of a series that have been especially prepared to meet the requirements of the course of study in the schools of New York City. The point of view taken by the authors is that commercial interests should dominate the geography studies of the eighth grade.

The material of this book lacks the vigor that should be found in a text that is to serve as the climax to a grammar school course in geography. For example the meager treatment of the lumber industry, pp. 87-88, is too elementary for an eighth grade. An industry of this importance requires a more extensive discussion than is found in these two short paragraphs. Again, the choice and description of the physical regions in chapter IV are poor. It is a hasty review of the material that has already been carefully studied by pupils of the lower grades. The New England plateau is in the Atlantic Coastal Plain, Appalachian plateaus are represented only by the Alleghany. On the relief map, p. 36, names of the physical regions are used with no attempt to show their definite boundaries, which is a very essential element in industry or commerce. Cleveland, p. 121, does *not* make nearly all the steel vessels used in the lake trade.

The plan of this text is in accord with the present trend in school geography but its material lacks careful organization and the definite details that are necessary for the grammar school pupils if they are to study the geographic meaning of commerce and industry.

W. M. GREGORY.

HEIDERICH, FRANZ, AND ROBERT SIEGER, edits. **Karl Andree's Geographie des Welthandels, Vol. 3.** x and 572 pp., maps. Henrich Keller, Frankfurt, 1913. 12s. 10 x 7.

It is true that the geography of the German secondary schools as recently taught was patrocentric to a degree that surprised most outsiders. I have seen boys in their teens who would get their North America in a lesson and a half in a Leipzig gymnasium. This shows, however, that there is another side. It also shows by comparison the poverty of American minds in Anglo-Saxon geography, for we have not yet reached the point where we have an effective demand for such books. This Volume 3 covers Australia, New Zealand and Oceanica, and the Americas (Latin, "Germanic," and Polar). It has 572 pages. The ordinary page has 450 words, but many pages are in a smaller type that carries 600 words to the page; certainly there are over 250,000 words.

Teutonic systematization crops out in many forms, such as the thorough treatment of the Polar regions (31 pages) and in the old familiar Vereinigten Staaten von—

Venezuela in this case. It will doubtless recall to the minds of the onetime sojourners in the Fatherland the oft repeated question ''Are you from the United States of North America or the United States of South America?''

The book is divided as follows: Australia and Oceanica, 86 pages; Latin America, 194, of which Argentina gets 13 pages; Central America 26; West Indies 27; Mexico 28. The ''North American Union'' gets 158 pages, and British America 80.

The method of treatment is the admirable one of giving as much as possible in general treatment before getting down to details, thus South America has 28 pages of general discussion and 114 pages devoted to particular countries. The discussion of the material on each country is topical. In the cases of the several countries of which I read I found the selection of material admirable and meaty, giving the facts necessary for a real economic interpretation, with an interesting collection of facts left over.

J. RUSSELL SMITH.

—— **Communication, the history of, or the evolution of communication.** 33 pp. New York Telephone Company. [Text of an illustrated stock lecture on the development of the telephone. A delivery in Brooklyn by Mr. S. V. Gibson was noted in the ''Personal'' column of the April, 1916, *Review*, Vol. 1, p. 308.]

JEFFERSON, MARK. **The range and township plan of roads.** *Journ. of Geogr.*, Vol. 14, 1915-16, No. 3, pp. 80-81.

JOHNSON, E. R. **Probable changes in the foreign trade of the United States resulting from the European War.** *Amer. Econ. Rev. Suppl.*, Vol. 6, 1916, No. 1, pp. 17-24. [Paper read at the 28th Annual Meeting of the Amer. Econ. Assoc., Washington, D. C., Dec., 1915.]

—— **Ships, The unprecedented demand for.** Ills. *Dun's Rev.: Internatl. Edit.*, Vol. 27, 1917, No. 5, pp. 46-51. [With good photographs.]

WILLIAMS, S. M. **Roads—their influence upon economic and social conditions.** 16 pp.; diagr., ills. Garford Motor Truck Co., Lima, Ohio, 1916. 9 x 6.

HISTORY OF GEOGRAPHY AND EXPLORATION

GWATKIN, H. M., AND J. P. WHITNEY, edits. **The Cambridge Medieval History. Vol. 1: The Christian Roman Empire and the foundation of the Teutonic Kingdoms.** xxi and 754 pp.; maps, index. **Vol. 2: The rise of the Saracens and the foundation of the Western Empire.** xxiv and 891 pp.; maps, index. The Macmillan Co., New York, 1913. $5. 9½ x 7.

These later students in Gibbon's field have corrected his errors of interpretation, have had access to material which was not within his reach, have been trained in a school of the interpretation of historical documents of which he was the founder. But we must admire the more the depth of his research and the genius with which he presented the story of the decadent empire and the vigor of the barbarian people founding a new state upon ruins. The first volume of this new history is a monument to Gibbon. The second brings us to the reign of Charlemagne and the creation of the Holy Roman Empire, the vigorous empire of the Franks and therefore of folk with whom our kinship is a matter now of sentiment rather than of an intellectual comprehension of the Indo-Germanic community of origin. WILLIAM CHURCHILL.

LAVEILLE, E. **The life of Father de Smet, S. J. (1801-1873).** Authorized translation by Marian Lindsay. Introduction by Charles Coppens. xxii and 400 pp.; ills., index. P. J. Kenedy & Sons, New York, 1915. $2.75. 9 x 6.

Father de Smet is the ''Marquette'' of the Indians of the Great Northwest. He was a mission builder, a traveler, a lover of the Indian and his ways, and always a champion of the red man in his grievances against the whites. His missionary labors began at Florissant near St. Louis in 1823. In 1838 he established a mission among the Potawatomies, then in eastern Kansas. In 1841 he settled the Blackfeet Indians about a mission near Missoula, Montana, and in 1844 opened a mission on the Willamette River. His journeys in North America took him from Baltimore to the mouth of the Columbia and northward to the Hudson's Bay Company's post at Fort Edmonton. In the Indian wars that followed the great ''white conquest'' that dispossessed the Indian of his lands, Father de Smet was invaluable on many occasions in bringing peace between the whites and the enraged and desperate Indians. His work among the Indians was constructive. Through his efforts civilization marched hand and hand with the Faith, for he taught the red men to till the soil and thus prepare themselves for the advanced economic life that would surely follow the encroachment of the whites.

The work is based primarily on the letters and documents of Father de Smet. The author had a wealth of original material at hand. Throughout there are frequent quotations from Father de Smet's letters. One gets an idea of the difficulties of travel in frontier days in the Northwest, though in this respect the book presents nothing that is new. Like the Jesuits of the Great Lakes, Father de Smet was a student of Nature and made collections of plants, insects, and minerals, but nothing of this valuable work appears in the book. In this respect the book is far inferior to the admirable Jesuit Relations and to the original published letters of Father de Smet (see "Life, Letters, and Travels of Father de Smet," edited by H. M. Chittenden and A. T. Richardson, New York, 1904). Moreover, the author may be accused, with all fairness, of being prejudiced in his interpretation of many historical facts. His opinion of the labors of the Protestant missionaries in the Northwest is unworthy to say the least. His discussion of the dealings of the United States government with the Indians and of the developments of the Grant peace policy is wholly one-sided. One does get, however, the story of the struggle of the Indians against the ruthless advance of the white from the Indian point of view. A. E. PARKINS.

NORTHUP, G. T., edit. and transl. **Amerigo Vespucci letter to Piero Soderini, Gonfaloniere. The year 1504.** 116 pp.; diagr. **Mundus Novus letter to Lorenzo Pietro di Medici.** 13 pp.; diagr. (Vespucci Reprints, Texts and Studies, IV and V.) Princeton University Press, Princeton, and Humphrey Milford, Oxford University Press, 1916. $1.25 and 75 cents. 8½ x 6.

Few topics relating to the first discoveries in South and Central America present greater perplexities than the four voyages described in the celebrated letters of Amerigo Vespucci. Some investigators regard them as apocryphal, others as genuine, but mendacious, others as genuine and truthful. The discrepancy existing among the different savants is, one might say, disconcerting. (See e. g., "Americus Vespucci, Leben," etc. Hamburg and Leipzig, 1748; Vizconde de Santarem "Carta del Excmo. Sr. . . . . ., archivero mayor del Reyno de Portugal, sobre los viajes que Vespucio," etc., in "Colección de Documentos Inéditos," Vol. 39, Madrid, 1883; "Researches respecting Americus Vespucius, and his Voyages," translated by E. V. Childe, Boston, 1850; and Henri Vignaud, in *Journal de la Société des Américanistes de Paris,* Vol. 8, 1911.)

Above all, it is necessary here to remember that the Vespucci letters constitute up to this very moment the only source of information we possess as to several voyages and exploring expeditions accomplished between the years 1499 and 1503 by the Spaniards and by the Portuguese in the New World. The so-called *first* voyage, said to have been carried out between 1497 and 1498, we will dismiss from this brief abstract and, leaving that complicated question to be treated in a special paper, state merely incidentally, that it is nothing else than the voyage undertaken in 1499 by Alonso de Hojeda, who then was acting upon letters patent granted to him by the sovereigns of Castile.

Reverting to the Vespucci letters, it is not less important to remark that the writings of the Florentine concerning the newly-discovered countries beyond the ocean and referring to the exotic people he had therein encountered, were during many years the favorite literature of intellectual Europe. The letters were soon translated into most cultural languages, thus circulating widely the whole continent over. Between 1504 and 1505 eleven editions had successively appeared of the Medici Letter, or "Mundus Novus." These editions as well as many other Latin and Italian editions were again and again re-translated and reprinted. Hence we know more than thirty editions in Latin, in Italian, in German, and one even in Dutch (only copy said to be extant is in the John Carter Brown Library, Providence, R. I.), printed between 1504 and 1509. Those prints, and many others akin, now bibliographical curiosities, were but mere "broadsides," which had been issued and circulated with the unmistakable purpose of keeping informed the general public of important and at once interesting events that now and then had happened abroad. They were commonly in 8vo, or in small 4to, now with numbered pages or folios, now simply bearing signatures in the right or in the left corner below, on the recto of the folio, often without colophon and without mark of the printer, nor water mark in the paper, a circumstance that of course hinders bibliographical investigation; some of them adorned with wood-cuts copied from originals inserted in similar prints, as e. g. Columbus letters, and so forth.

Furthermore, being "sensational literature," and having been destined, as it seems, for mere commercial purposes, the different translations and editions had suffered at the hands of translators and even of editors and printers. Vespucci's heavy style and somewhat confused diction intermixed with a strange terminology, "barbarisms," of course led to all kinds of speculations. Omissions, additions, interpolations, misreadings, and the subsequent mistakes and erroneous interpretations, even entirely false translations, and so on, occur in most editions. There can be no doubt that the texts on which the modern historian generally bases his judgments, as Mr. Northrup very correctly remarks, "are vastly different from those which left the author's hand" (p. 1). He adds: "The extant versions of these must be critically examined, collated and classified; critical texts must be established before historians can hope to form accurate judgments based upon Vespucci's writings." Thus the critical study of the Soderini letter, "treated solely in its philological aspects," constitutes the scope of the important investigation published by Princeton University.

This premised, the author dedicates over forty pages to a detailed and most conscientious investigation as to the "Quellenverhältnis" of the Florentine print (1504), the Magliabechiana manuscript and the Hylacomylus version. According to Mr. Northup, the Italian versions can be traced back to a Spanish original; and the Hylacomylus edition goes back to an Italian original through some French(?) version. To sum up, he amply proved what the compiler of the "Paesi nuovamente retrouate" had explicitly observed in 1507: ". . . fo de lengua spagnola interpretato in idioma romano." More or less the same statement the student may read in the colophon of certain editions of the Vespucci letters, printed between 1505 and 1506 at Augsburg (?).

Though it is far from our mind to minimize the all-important investigation of Mr. Northup, we ought nevertheless to observe that the Venetian ambassador Angelo Trevisan di Bernardino sent to Venice only Peter Martyr's *First Decade,* which in 1504 was issued under the title of "Libretto de tutta la navigatione de re de Spagna," etc. Perhaps it might have been useful to glance over the Vespucci manuscript of the Biblioteca Nazionale at Florence, as published by Guglielmo Berchet ("Raccolta Colombiana," Part III, Vol. 2, Rome, 1893, pp. 136-170), in which is also to be found the letter of Vespucci addressed to Laurentius Petrus Franciscus de Medicis (pp. 123-135).

RUDOLPH SCHULLER.

—— **Addresses at memorial services in honor of Dr. E. W. Hilgard, University of California, January 30, 1916.** 50 pp.; ills., bibliogr. Reprinted from the *Univ. of California Chronicle,* Vol. 18, 1916, No. 2, Berkeley. [Compare the sketch "The Geographical Work of Dr. E. W. Hilgard" by R. M. Harper in the *Geogr. Rev.,* Vol. 1, 1916, pp. 368-370.]

ALVORD, C. W. **A critical analysis of the work of Reuben Gold Thwaites.** *Proc. Mississippi Valley Hist. Assoc. for the Year 1913-14,* Vol. 7, pp. 321-333.

B——, A. C. **Sir Clements R. Markham.** *Science,* Vol. 43, 1916, Apr. 21, pp. 559-562. [Obituary.]

BABCOCK, W. H. **The so-called mythical islands of the Atlantic in mediæval maps.** (Considered as evidence of pre-Columbian exploration toward America.) Maps, bibliogr. *Scottish Geogr. Mag.,* Vol. 31, 1915, No. 5, pp. 261-269; No. 6, pp. 315-320; No. 7, pp. 360-371; No. 8, pp. 411-422; No. 10, pp. 531-541; Vol. 32, 1916, No. 2, pp. 73-79; No. 3, pp. 131-140.

BAIN, H. F. **N. H. Winchell and the "American Geologist."** Ills. *Economic Geol.,* Vol. 11, 1916, No. 1, pp. 51-62. [Interesting account of the development of geology in this country since 1888, which provides a hopeful analogy for geography.]

BEJARANO, M. M. **Bio-bibliografía hispálica de Ultramar: Estudio de literatura geográfica española.** Bibliogr. *Bol. Real Soc. Geogr.,* Vol. 57, 1915, No. 4, pp. 401-451; Vol. 58, 1916, No. 1, pp. 90-128; No. 2, pp. 221-256; No. 3, pp. 345-400; No. 4, pp. 413-447. Madrid. [The exceptionally favorable location of Seville enabled this city to contribute largely to the history of colonial Spain. The article noted is a biography—with bibliography—of writers, natives of the city and its environs, who have contributed to our knowledge of "The Indies."]

BRADLEY, C. B. **A reference list to John Muir's newspaper articles.** *Sierra Club Bull.,* Vol. 10, 1916, No. 1, pp. 55-59.

BRANNER, J. C. **Orville A. Derby.** *Journ. of Geol.,* Vol. 24, 1916, No. 3, pp. 209-214.

DODGE, G. M. **James Bridger.** Ill. *Mag. of Hist. with Notes and Queries,* Vol. 21, 1915, No. 1, pp. 1-24. [This frontiersman's name is associated with the development of the overland routes. His discovery of South Pass in 1827 indicated a feasible route across the Rockies in this region, a route later followed by the California and Oregon trail. In 1843 he founded Fort Bridger.]

DORAN, J. E. **A bibliography of John Muir.** *Sierra Club Bull.,* Vol. 10, 1916, No. 1, pp. 41-55.

ENGELN, O. D. VON. **Shakespeare, the observer of nature.** *Scientific Monthly,* Vol. 2, 1916, No. 6, pp. 573-588.